WE CLAIM:

1. A recombinant protein comprising (a) an A chain of a ricin-like toxin, (b) a B chain of a ricin-like toxin and (c) a heterologous linker amino acid sequence linking the A and B chains, the linker sequence containing a cleavage recognition site for a disease-specific protease, wherein the A chain or the B chain has at least one glycosylation site.
2. The recombinant protein according to claim 1 wherein one or more glycosylation sites have been mutated and can not be glycosylated.
3. The recombinant protein according to claim 1 or 2, wherein the B chain has at least one glycosylation site.
4. The recombinant protein according to any one of claims1 to 3, wherein only the B chain is glycosylated at B1.
5. The recombinant protein according to any one of the claims 1 to 4, wherein the recombinant protein has a ricin secretion signal sequence.
6. The recombinant protein according to claim 1, wherein the recombinant protein has the amino acid sequence shown in Figure 1 (SEQ ID No. 1) or a fragment or analog thereof.
7. The recombinant protein according to claim 1, wherein the recombinant protein has the amino acid sequence shown in Figure 2 (SEQ ID No. 2) or a fragment or analog thereof.
8. The recombinant protein according to claim 1, wherein the recombinant protein has the amino acid sequence shown in Figure 3 (SEQ ID No. 3) or a fragment or analog thereof.
9. A purified and isolated nucleic acid molecule comprising (a) a nucleotide sequence encoding an A chain of a ricin-like toxin, (b) a nucleotide sequence encoding a B chain of a ricin-like toxin and (c) a nucleotide sequence encoding a heterologous linker amino acid sequence linking the A and B chain, the heterologous linker sequence containing a cleavable recognition site for a disease-specific protease, wherein the nucleotide sequence encoding the A chain or the nucleotide sequence encoding the B chain encodes an amino acid having at least one glycosylation site.

10. The nucleic acid molecule according to claim 9 wherein one or more glycosylation sites have been mutated and can not be glycosylated.

11. The nucleic acid molecule according to claim9 or 10, wherein the nucleotide sequence of the B chain encodes an amino acid having at least one glycosylation site.

12. The nucleic acid molecule according to any one of claims 9 to 11, wherein the nucleotide sequence of the B chain encodes an amino acid at B1 having a glycosylation site.

13. The nucleic acid molecule according to any one of the claims 9 to 12, wherein the nucleic acid molecule encodes a ricin secretion signal sequence.

14. The nucleic acid molecule according to claim 9 comprising:

(a) a nucleic acid sequence as shown in Figure 4 (SEQ.ID.NO.:4), Figure 5 (SEQ.ID.NO.:5) or Figure 6 (SEQ.ID.NO.:6) wherein T can also be U;

(b) a nucleic acid sequence that is complementary to a nucleic acid sequence of (a);

(c) a nucleic acid sequence that has substantial sequence homology to a nucleic acid sequence of (a) or (b);

(d) a nucleic acid sequence that is an analog of a nucleic acid sequence of (a), (b) or (c); or

(e) a nucleic acid sequence that hybridizes to a nucleic acid sequence of (a), (b), (c) or (d) under stringent hybridization conditions.

15. The nucleic acid molecule according to claim 14, wherein the nucleic acid molecule has the nucleic acid sequence shown in Figure 4 (SEQ ID No. 4).

16. The nucleic acid molecule according to claim 14, wherein the nucleic acid molecule has the nucleic acid sequence shown in Figure 5 (SEQ ID No. 5).

17. The nucleic acid molecule according to claim 14, wherein the nucleic acid molecule has the nucleic acid sequence shown in Figure 6 (SEQ ID No. 6).

18. A method of inhibiting or destroying cells affected by a disease, which cells are associated with a protease specific to the disease comprising the

steps of:

(a) preparing a purified and isolated nucleic acid of any one of the claims 9 to 17;

(b) introducing the nucleic acid into a host cell and expressing the nucleic acid in the host cell to obtain a recombinant protein according to any one of the claims 1 to 8;

(c) suspending the protein in a pharmaceutically acceptable carrier, diluent or excipient, and

(d) contacting the cells with the recombinant protein.

19. A use of a recombinant protein according to any one of claims 1 to 8 for inhibiting or destroying cells affected by a disease, which cells are associated with a protease specific to the disease.

20. A use according to claim 19, wherein the disease is cancer.

21. A method according to claim 20, further comprising using at least one additional anticancer therapy.

22. A use according to claim 21, wherein the additional anticancer therapy is one or more of the following: doxorubicin, cisplatin, cyclophosphamide etoposide, paclitaxel, taxotere, carboplatin, oxaliplatin, 5-flurorouracil, irinotecan, topotecan, vincristine, gemcitabine, epirubicin, capecitabine, and temozolomide.

23. A use according to claim 19 wherein the disease is a viral, fungal or parasitic infection.

24. A use of a nucleic acid molecule according to any one of claims 9 to 17 for inhibiting or destroying cells affected by a disease, which cells are associated with a protease specific to the disease.

25. A use according to claim 23, wherein the disease is cancer.

26. A method according to claim 23, further comprising using at least one additional anticancer therapy.

27. A use according to claim 25, wherein the additional anticancer therapy is one or more of the following: doxorubicin, cisplatin, cyclophosphamide etoposide, paclitaxel, taxotere, carboplatin, oxaliplatin, 5-flurorouracil, irinotecan, topotecan, vincristine, gemcitabine, epirubicin, capecitabine, and

temozolomide.

28. A use according to claim 24 wherein the disease is a viral, fungal or parasitic infection.

29. A process for preparing a pharmaceutical for treating a mammal with cancer, fungal infection, viral infection or parasitic infection, comprising the steps of:

(a) preparing a purified and isolated nucleic acid according to any one of the claims 9 to 17, wherein the linker sequence contains a cleavage recognition site for a cancer, fungal or viral or parasitic protease;

(b) introducing the nucleic acid into a host cell and expressing the nucleic acid in the host cell to obtain a recombinant protein of any one of the claims 1 to 8;

(c) suspending the protein in a pharmaceutically acceptable carrier, diluent or excipient.

30. A process for preparing a pharmaceutical for treating a mammal with cancer, comprising the steps of:

(a) preparing a purified and isolated nucleic acid according to any one of the claims 9 to 17, wherein the linker sequence contains a cleavage recognition site for a cancer protease;

(b) introducing the nucleic acid into a host cell and expressing the nucleic acid in the host cell to obtain a recombinant protein of any one of the claims 1 to 8;

(c) suspending the protein in a pharmaceutically acceptable carrier, diluent or excipient.

31. The process according to claim 28 and 29, wherein the pharmaceutical composition further comprise at least one additional anticancer therapy.

32. A process according to claim 31, wherein the additional anticancer therapy is one or more of the following: doxorubicin, cisplatin, cyclophosphamide etoposide, paclitaxel, taxotere, carboplatin, oxaliplatin, 5-flurorouracil, irinotecan, topotecan, vincristine, gemcitabine, epirubicin, capecitabine, and temozolomide.

33. A pharmaceutical composition for treating cancer or a fungal, viral, or

parasitic infection in an animal comprising the recombinant protein of any one of the claims 1 to 8 and a pharmaceutically acceptable carrier, diluent or excipient.

34. A pharmaceutical composition for treating cancer or a fungal, viral or parasitic infection in any animal comprising the nucleic acid molecule of any one of the claims 9 to 17 and a pharmaceutically acceptable carrier, diluent or excipient.

35. A pharmaceutical composition for treating cancer according to claims 33 or 34, further comprising at least one additional anticancer therapy.

36. A pharmaceutical composition according to claim 35, wherein the additional anticancer therapy is one or more of the following: doxorubicin, cisplatin, cyclophosphamide etoposide, paclitaxel, taxotere, carboplatin, oxaliplatin, 5-flurorouracil, irinotecan, topotecan, vincristine, gemcitabine, epirubicin, capecitabine, and temozolomide.